

REMARKS

In the Office Action the Examiner noted that claims 1, 2, 8-10, 16 and 17 were pending in the application and the Examiner rejected all claims. The Examiner's rejections are traversed below.

The Prior Office Action and Response

In response to the previous prior art rejection, applicants amended the claims to recite the keyword extraction occurs "based on a statistical analysis." Applicants further urged that the preview pane disclosed in the Bailey reference does not extract selected words by referring to document group information, but instead displays the entire message. The applicants pointed out that in Bailey while only a portion of the message may be displayed (depending on the length of the message, the size of the monitor, etc.), the entire message can be scrolled through in the preview pane. Therefore, all words in the message are displayed in Bailey and there is no extraction of keywords. In particular, the applicants pointed out that Bailey does not teach or suggest a document group keyword extraction device to extract keywords contained in a body of a document forming part of each group of documents based on a statistical analysis by referring to the document group information.

The New Rejection

In item 6 on pages 3-6 of the Office Action the Examiner has rejected all claims as unpatentable over U.S. Patent 5,933,599 to Nolan in view of U.S. Patent 5,905,863 to Knowles et al. and further in view of U.S. Patent 5,845,084 to Bailey.

On page 3 of the Office Action the Examiner has acknowledged that Nolan fails to explicitly disclose determining for each document in the set, which of the documents is referenced, and extracting keywords contained in a body of a document forming part of each group of documents based on a statistical analysis, by referring to document group information. However, the Examiner relies on Knowles as teaching this feature.

The Knowles Reference

Applicants have reviewed the portions of Knowles referenced by the Examiner (column 1, line 63 to column 2, line 67; column 3, lines 20-64; and column 4, lines 34-50). The Knowles et al. patent is directed to a way of recognizing and manipulating threads contained in electronic messages. The Background of the Invention section of the Knowles patent describes typical electronic mail information, for example, identifying a relationship between a parent message and a reply message. Reference is also made to bulletin board systems in which replying to an e-mail message inserts structural information into the reply. The Background also discusses grouping of messages based on several criteria such as subject line, author, or recipient.

In the Summary of the Invention section of the Knowles patent, it is indicated that statistical information retrieval techniques are used in conjunction with textual material obtained by filtering messages to achieve a significant level of accuracy of identifying when one message is a reply to another. Column 4, lines 24-50 describe using the subject line, quoted text and unquoted text to determine whether a message is related to another message.

The Present Claimed Invention Patentably Distinguishes Over the Prior Art

Referring, for example, to claim 1, it is submitted that none of the prior art teaches or suggests:

a document group keyword extraction device to extract keywords contained in a body of a document forming part of each group of documents based on a statistical analysis by referring to the document group information; and

a document group keyword display device to display a title of each document in each group of documents and the keywords extracted from the body of the document corresponding to the title by said document group keyword extraction device, the title and the keywords being displayed in areas related to each other.

That is, none of the references teach the concept of extracting keywords contained in a body of a document and then displaying the keywords extracted from the body of the document

in conjunction with a corresponding title, so that the title and the keywords are displayed in areas related to each other.

In formulating the rejection the Examiner takes the position that the Knowles reference discloses statistical information type retrieval techniques. Applicants submit that these types of techniques are standard practice when selectively extracting words from a body of a document. However, applicants have never taken the position that use of statistical information techniques were unique to the applicants' invention. Instead, this feature was added to the claims in order to clarify the meaning of the term "keyword" within the claims. Specifically, this feature was inserted in order to make it clear that the Bailey reference had no disclosure related to keywords.

In the rejection, the Examiner relies on the Knowles reference for disclosing statistical information retrieval techniques and relies on the Nolan reference for its disclosure of a display of a group of bulletin board documents. On pages 3 and 4 of the Office Action the Examiner acknowledges that Nolan "fails to explicitly disclose extract keywords contained in the body of a document and display keywords extracted from the document corresponding to the title... the title and the keywords displayed in areas related to each other." However, the Examiner takes the position that "Bailey teaches a preview pane for displaying a message's extracted keywords along with the title of the message." Applicants disagree.

While Bailey describes displaying an e-mail message and subject (title) in a preview screen, Bailey is silent about displaying such a title together with keywords (i.e., words selected from the body of the text using a statistical analysis). Figure 3 in Bailey shows displaying in a mutually interrelated manner the subject (title of an e-mail message and the sender of the e-mail message) but does not teach displaying "keywords" as defined in the claims.

Applicants have reviewed column 2, lines 44-67 and Figure 3 of Bailey which were relied upon by the Examiner. Bailey teaches a standard highlight bar/ preview pane combination in which a highlighted message from a list is displayed in a preview pane. The preview pane discloses the entirety of the message; however, depending on the length of the message, the user may not see the entire message on the screen of the preview pane. Bailey does not have any discussion regarding extracting and displaying keywords (as defined in the claims) from the body of the message.

Referring to the Examiner's reliance upon the Bailey patent, applicants submit that the preview pane disclosed in Bailey does not extract selected words by referring to document

group information, but instead displays the entire message. While only a portion of the message may be displayed (depending on the length of the message, the size of the monitor, etc.), the entire message can be scrolled through in the preview pane. Therefore, all words in the message are displayed in Bailey and there is no extraction and displaying of keywords.

In summary, it is submitted that none of the references teach or suggest the features of claim 1, which include:

a document group keyword extraction device to extract keywords contained in a body of a document forming part of each group of documents based on a statistical analysis by referring to the document group information; and

a document group keyword display device to display a title of each document in each group of documents and the keywords extracted from the body of the document corresponding to the title by said document group keyword extraction device, the title and the keywords being displayed in areas related to each other.

Therefore, it is submitted that claim 1 patentably distinguishes over the prior art.

It appears that there may be some confusion about the differences between an e-mail message subject (its title) and the keywords found in the body of a document. Applicants submit that these two are clearly different as defined in the claim. Many e-mail messages (for instance, an e-mail message composed after many times of transmission in the return mail mode with a corresponding repeat "RE:" heading) have associated subject phrases which do not represent in any manner the contents of the messages. For such e-mail messages the subject phrases serve no value and clearly could not be considered "keywords" relevant to the body of the message. Further, an e-mail subject is not extracted based on a statistical analysis and therefore cannot be seen to constitute the claimed keywords associated with the present invention. Therefore, it is submitted that an e-mail message subject (title) should not be equated with the claimed "keywords" set forth in the claims. Therefore, it is submitted that claim 1 patentably distinguishes over the prior art.

Claim 2 depends from claim 1 and includes all of the features of that claim plus additional features which distinguish over the prior art. Therefore, it is submitted that claim 2 patentably distinguishes over the prior art.

Claim 8 is directed to a display apparatus which includes:

a topic keyword extraction device to extract keywords contained in a body of each document relevant to each topic obtained by the further classification of each of the groups of documents based on a statistical analysis by referring to the document group information and the topic classification information;

a topic keyword display device to display a title of each document relevant to each topic obtained by the further classification and the keywords extracted from the body of each document corresponding to each title by said topic keyword extraction device, the title and the keywords being displayed in areas related to each other.

Therefore, it is submitted that claims 8 patentably distinguishes over the prior art.

Claim 9, is directed to a display method which includes:

extracting keywords contained in a body of a document forming part of each group of documents based on a statistical analysis by referring to the document group information;

displaying a title of each document in each group of documents and the keywords extracted from the body of the document corresponding to the title, the title and the keywords being displayed in areas related to each other.

Therefore, it is submitted that claim 9 patentably distinguishes over the prior art.

Claim 10 depends from claim 9 and includes all of the features of that claim plus additional features which are not taught or suggested by the prior art. Therefore, it is submitted that claim 10 patentably distinguishes over the prior art.

Claim 16 is directed to a display method which includes:

extracting keywords contained in a body of each document relevant to each topic obtained by the further classification of each group of cross-referenced documents based on a statistical

analysis by referring to the document group information and the topic classification information;

displaying a title of each document relevant to each topic obtained by the further classification and the keywords extracted from the body of each document corresponding to each title, the title and the keywords being displayed in areas related to each other.

Therefore, it is submitted that claim 16 patentably distinguishes over the prior art.

Claim 17 is directed to a computer readable storage medium which includes the features of:

extracting keywords contained in a body of a document forming part of each group of documents based on a statistical analysis by referring to the document group information;

displaying a title relevant to each group of documents and the corresponding keywords extracted from the bodies of the group of documents.

Therefore, it is submitted that claim 17 patentably distinguishes over the prior art.

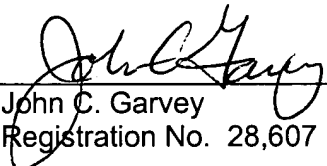
Summary

It is submitted that none of the references, either taken alone or in combination, teach the present claimed invention. Thus, claims 1, 2, 8-10, 16 and 17, are deemed to be in a condition suitable for allowance. Reconsideration of the claims and an early notice of allowance are earnestly solicited.

Respectfully submitted,

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